

THE ARCHITECTURAL JOURNAL

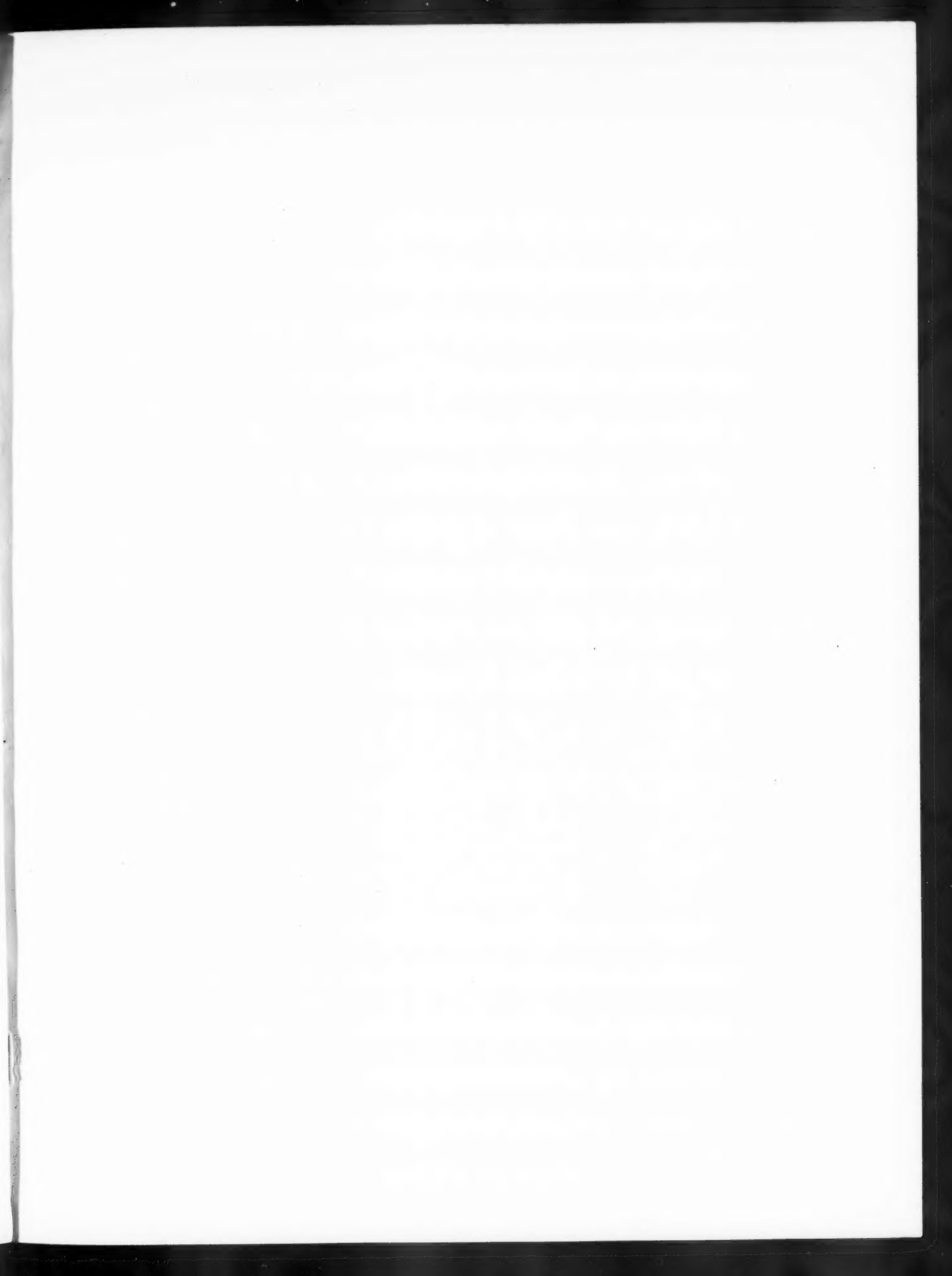
BEING THE JOURNAL OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

VOL. VI. THIRD SERIES, 1899

* * *

The Royal Institute of British Architects, as a Corporate Body, is not responsible for statements made or opinions expressed in the signed contributions to this volume. For those to which no name is attached the Secretary of the Royal Institute, who is the Editor of the JOURNAL, is responsible.





[From a recent photograph by W. H. Bastin, Hereford.]

GEORGE FREDERICK BODLEY, A.R.A.

Royal Gold Medallist 1899.

Done Faithfully

G. F. Bodley.

JOURNAL
OF
THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

NOVEMBER 1898—OCTOBER 1899



UNIVERSITY OF
MINNESOTA

VOLUME VI. THIRD SERIES

LONDON

No. 9, CONDUIT STREET, HANOVER SQUARE, W.

1899

TO YHIOHIOU
ATCZMIM
VET 2 1900

JOURNAL

OF

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

SESSION 1898-99.

THE OPENING ADDRESS. Delivered by the President, Professor AITCHISON, R.A.,
at the First General Meeting, Monday, 7th November 1898.

BROTHER ARCHITECTS, LADIES AND GENTLEMEN,—

I THINK we may be congratulated on the improvement that is taking place in the appearance of London. It is a great triumph for architects to think that they are converting a rather dull city, mostly composed of brick walls with holes in them, into a town almost as picturesque and varied as the old towns of France or Flanders.

I think it was in the forties that Professor Cockerell, at the Royal Academy, gave the approximate number of the new churches and public buildings that had been erected in the preceding thirty years; but that list, astonishing as it was, would dwindle into insignificance beside the new buildings that have been erected in and around London within the same lapse of time.

Of very important buildings in the centre of London there have necessarily not been very many, but in the outskirts numberless town halls, technical schools, and other municipal buildings have sprung into existence; and, though I am afraid we can hardly claim for most of them that they have rivalled the picked examples of the world's architecture, they mostly have some stateliness, picturesqueness, or originality.

I regretted to read the remarks of Mr. Norman Shaw, who has been acting as one of the assessors on the designs for the buildings of the Californian University. He said that "The competition had been held in the hopes of discovering some architectural genius, but in this it had failed," and he felt "a twinge of national regret when no English name appeared among the selected eleven;" the plans selected were without exception of the French school. "Architecture," said Mr. Shaw, "is more thoroughly taught in France than in England;" "at the same time French teaching destroys individuality." It is a matter for regret that an English-speaking race should have to go to our neighbours for their architecture, but that may be because there is more architectural genius among our neighbours across the Channel than amongst the English-speaking countries on both sides of the Atlantic and in the Pacific; yet it is peculiarly unpleasant that a celebrated English architect can justly speak of a more thorough teaching being given in France. One naturally asks, Why is this? For one would think that what is teachable could and ought

to be as well taught in England, America, and Australia as it is in France; at any rate, the first thing that the English architects should do is to see that this inefficiency is corrected. I can hardly believe that teaching, if not carried far enough to stifle independent thought, can extinguish individuality, for certainly some of our great poets were the best educated men of their day. As far as we know, we cannot give ourselves genius, but it is most probable that, if a large number of persons will acquire that which a good architectural education can give them, there will be a genius among them; and surely a well-taught genius is better than an ill-taught one.

There is a most interesting book written by M. Edmond Demolins, who says that the education given to the English has peculiarly fitted them to be successful colonists. Whether this method of education was deliberately chosen, or whether it was stumbled into through the natural bent of the people, does not appear; but we can only hope that, either by accident or design, we may find as successful a method of teaching architecture; for every English-speaking man in the world must wish that we could produce buildings that would vie with those produced in the most brilliant epochs of Greece and Rome, of France and Italy, and with the best Saracen buildings, and with the Gothic ones that pervaded Europe during the Middle Ages. We cannot hope, however, to equal the excellence of monuments that sprang into existence after stirring times, in nations where there was an adoration of the beautiful, particularly when one of these nations is believed by some philosophers to have possessed faculties as superior to those of the nations of Europe as the faculties of European nations are superior to those of the negro.

Architecture is the poetry of construction, and the noblest poetry is naturally found in buildings that are applied to the highest transcendental uses. A certain amount of comeliness is necessary to every building, except such buildings as are required to create fear, horror, or a sense of ignominy, such as fortresses, gaols, gallows, and pillories.

A building is an organism created by man for his own needs that should emulate the organisms of nature. To take man as the highest organism, we may say that the man of the most striking appearance is not a perfect organism if he has some incurable internal defect; and so in a building no beauty will wholly compensate for its want of answering the purpose for which it was built, and even if it answer its purpose, but has a beauty that is quite incongruous with its use, it becomes as ridiculous in the eyes of judges as a man in a State dress acting as a scavenger. In some of the modern buildings that at first sight affect us strongly, from their size, mass, or ornamentation, if we see that this size and this massiveness are not necessary, that these embellishments are not consistent with the uses of the building, we merely despise the factitious effects.

As our knowledge of the strength of materials, of the strains and stresses that result from the different forms of buildings becomes more accurate, it will naturally affect the shapes of the different parts of the building, and I think we must look very much to this for future advancement in architecture.

We want to mark those portions of buildings that have special duties to perform with that architectural emphasis which is given by mouldings, and these mouldings have to produce the effect we want in our own climate. To use mouldings that were designed for climates different from our own, and consequently do not properly answer their purpose, is really to declare ourselves indolent or incompetent; we have plenty of plausible excuses, *e.g.* that the Romans used the same mouldings whenever they built, and that their Renaissance imitators did the same, and that the archaeologists our masters would be shocked at any architect who attempted to think; but neither excuses nor bad examples will avail us, if our sole object is to advance our art. We have too to consider the purposes to which our buildings

are to be put, the ratio of strength we must allow when a building is merely for a temporary purpose, or to last as a record for future ages.

According to the uses which the building is to subserve we must consider the ornaments that are to be given to it by the sculptor, and whether their forms are to be taken from vegetable life only, or are to include animals or man. Where buildings are to be used for the highest intellectual or moral ends it is perhaps difficult to find even figure sculpture that will sufficiently express their high use. In classic and mediæval times, at least, sculptors employed for this purpose mythical or symbolic figures. In the present day we have given up almost all symbolic and emblematic forms, and have trusted purely to words, which do not strike the multitude, and have not, in the bare form in which they are mostly given, the same effect on the mind as symbolic forms. Sculpture is wanted on all buildings, but its use should be imperatively called for by the people for all public buildings, for the sculpture, if properly designed, would more completely show the use of the building, and surely the public who pays for these buildings should be informed of their use; this is particularly called for when the buildings are for benevolent purposes, such as hospitals, asylums, workhouses, rests, refuges, and homes. The speaking arts of sculpture and painting are particularly wanted for enlightening the people on the advantages of living in a free and advancing country. It is for statesmen to consider how much more contented the population of this country would be if the fine arts were used to proclaim the advantages the people enjoyed.

The subject of colour is one that has of late years fallen greatly into neglect, but, as far as I can comprehend, very unnecessarily; for as Nature colours all her works, and produces every sort of emotion from the combination of form, light and shade, and colour, it can hardly be inappropriate for man to do the same; and all architects know that monumental colouring may be as well marked as monumental form.

Hitherto the proportions used, or, as the ancients more properly called them, symmetry, which forms so important an element in architecture, has been almost confined to those taken from the highest transcendental buildings of the past; but we see in Nature every conceivable proportion, and most of these are good; consequently it is only from want of observation and want of skill that we confine ourselves to the proportions of Greek, Roman, or Mediæval work; for Egyptian, Assyrian, Arabic, or Indian architecture has found no great favour in Europe.

The thing we want most is the Advancement of Architecture; but who is to show us the way? A deceased architect of marked ability said we must wait for another irruption of barbarians—and probably if they were barbarians of improvable quality they might solve the problem; but it would be a drastic measure that most of us at least would pray might not occur in our time. I think the greatest obstacle to the Advancement of Architecture is the fact that the bulk of Englishmen do not care about it in the least, and, as far as I can judge, the fine arts are not likely to improve if no one cares for them. So every architect should be ready to point out what architecture does for a nation, and thus help to create the want.

Architecture—and by that I mean good architecture—must, even from the size and importance of its monuments, create some sort of emotion in the beholder; and the least reflection should show him the vast army of various men that have been employed to get all the materials and to bring them together, the thousands of craftsmen wanted to fashion them and put them in their places; and according to the stateliness, the impressiveness, or the beauty of these buildings will the power, wealth, and grandeur of the nation that has erected them be brought before his mind. If these buildings are for the highest purposes and clearly express their character, deep emotion will be excited in him, and he will also think

of the science that these buildings presuppose, the artistic skill of the architect and artists employed, and of the artistic tastes of the nation at the time in which they were built. As the late Charles Garnier said, "Architecture is an obtrusive art." Its masterpieces thrust themselves upon you and cannot be hid in a corner, and as long as they remain they call from the people who wish to see them a journey to the land of their creation; so if we want a good account of our time to be given to posterity, we must pick out good architects, encourage them to do their best in erecting important, well built, and æsthetic structures; at any rate, if this is neglected the age in which we live will be lampooned.

The painters and sculptors laugh at us when we say we want the public to show us what they like and what they want, and say, "We struck out a new type of woman never before painted, and new methods of treatment, and the public appreciated it and asked for more." But their case is quite different from ours. It is not pleasant, I confess, for a painter to paint a picture or a sculptor to model a statue that does not sell, but an architect cannot put up a monumental building in the hope that the public will approve of it and pay the expense. The most he can do is to show a drawing or a model in public, and persuade men in power or of immense wealth that he is both capable and original, and will be able to charm the public by his work. How did the architect of the Erechtheum persuade the State to employ him? So small a monument as that of Lysikrates could well have been shown by a model.

To get the proper teaching is not so easy as to say we want it; but I think in architectural education, as in general education, we must endeavour not to teach that which is dead nor that which is useless, but confine ourselves to the necessary and the useful. I think it is obvious that architecture is the poetry of construction, and consequently the very first thing to be taught is construction; and it is not the mere rough knowledge of the main principles, but that exact and accurate knowledge which was possessed by the late Romanesque architects of the properties of stone. They got this knowledge mostly by the failure of their buildings; but they reasoned on the causes of the failure; they observed, they thought, and they dared; while we have most accurate means of testing the strength of every material that falls to our hand, and if we be mathematicians we can solve every stress and strain, as the engineers have done. We have many new materials that our predecessors had not, and some of extraordinary strength and of a capacity for taking nearly every form with ease; I speak here particularly of cast iron. This is not without dangerous qualities when exposed to fire, but we ought not on that account to neglect it. With wrought iron we have other difficulties to contend with, besides the danger of fire, for it is very difficult, and still more expensive, to make this in any agreeable or beautiful shape, and to ornament it; but we cannot believe that the mediæval architects would not have largely used both materials if they had possessed them. We have, too, practically a new material in concrete, but this material also is not without its difficulties and its drawbacks, and we have besides the whole of what I may call old-world materials to our hand to deal with structurally in a more perfect way than they ever could have been dealt with before, and the whole category of old shapes to use and new forms to adopt that have never been used before. If the dictum of Sir Joshua Reynolds be true, that by becoming familiar with the invention of others we learn to invent, the great knowledge that we possess of past architecture should make us more ready to invent; but in fact, the gift of invention, so far as architectural forms are concerned, seems almost extinct. We have only this to say in excuse, that from the fifteenth century to the middle of the last century, European architects had nothing but Roman architecture, or its Renaissance imitation, to study and to use; since then we have had Greek and Gothic. Neither of these styles, however, was used to stimulate invention, but merely to copy, and even in the present day it

is doubtful whether the invention of a new form, unless it were surpassingly beautiful, would be tolerated, for antiquarianism has usurped the place of architecture.

We must of course study the expressive and beautiful buildings of the past to learn how their effects were produced; but, having learnt this, our object should be to invent other proportions and other shapes, whose effects shall be equal or superior to those of the past: and when I speak of invention it is merely the adaptation of some of the innumerable forms of nature. In the present day we should say that there was even less invention amongst architects than there was amongst the Romans, for the Romans at least started a new method of adornment when they carved the shafts of their columns, or covered their pilasters with running foliage; but of course it is to the Gothic architects that we must look for those rapid adaptations that we now call inventions. Gothic architecture from the time that it emerged from Romanesque passed rapidly through what we call Geometrical and Decorated, till it fell into the mechanical stiffness of Perpendicular. Were these men blessed with greater powers of invention or adaptation than we are? or is it that the gift has become atrophied for want of use? At any rate, the substitution of archæology for architecture must tend to this result, for if the wing of the apteryx dwindled to the size of your thumbnail for want of use, it is probable that our powers of invention will do the same. I think that we are not so destitute of invention as we appear to be, for in out-of-the-way places in the country you see the elements of new Gothic and new Classic, where the architects have not been very learned, and have not had the fear of the archæologist before their eyes.

When one speaks of invention, good invention is meant, and if we have the gift of invention it is only by the constant exercise of it, and by comparing our inventions with the excellence of the past, that we are likely to progress. I feel sure that the architecture of one century, or perhaps even of one quarter of a century, should not exactly resemble that which went before it, for besides our proclivities and aspirations not being exactly those of our fathers' time, if our knowledge and invention were progressive we should want the one for use and the other for emulation. In poetry we do not want the poets of our own time to portray again the character of times long past, for in that we can take but small interest; but to portray our advancing knowledge and the good, striking, and dramatic characteristics of our own time, as Tennyson so admirably did; and we must never forget the labour and study he undertook to perfect himself, for he learnt Hebrew to see how the Hebrew poets arrived at sublimity. I do not speak about ornament, whether carved or painted, for that is the business of the sculptor or the painter. I by no means wish to discourage architects from being painters, sculptors, and ornamentalists, so long as they are good architects as well; but it is absurd to give up the advancement of our own art for the sake of being dabblers in the arts of others. I have said nothing about the art of planning, although that is a most important art, and in these days, where convenience is thought of more importance than anything else, it is the art by which most competitions are gained. No one can deny that it is a useful art, and may be a very impressive one, and I am sorry to say that in its highest form it is not sufficiently studied.

I must say something on the results of our own Examinations, for they have had a very stimulating effect on the students. The Examinations let the students know some of the things they ought to study, and give them an object to aim at. Examinations, however, have certain shortcomings, like everything human—they test insufficiently. Besides, a parasitic growth clings to them: they lend themselves to cramming, whilst to cram is the last thing we should wish any architectural student to do, for it is a pure effort of memory to recollect what has been before written or said and repeat it at a given time, while the great object of instruction is to teach people to think and act properly. The sort of memory

architects want is for the thing to be remembered to be firmly and permanently fixed; while anything crammed, when it has once answered its purpose, is almost immediately forgotten, and leaves scarcely a trace behind. Architecture in every one of its three branches requires accurate thinking to the end in view, and no cramming is of the slightest use in that direction. The only use I ever heard claimed for it is that it enables a man to seem to know that which he does not know—which may be useful on occasions.

The plan or arrangement of a building requires to be made perfectly suitable for its purpose, and in the cases where the building is not for common use it should have a certain effect, and if for high purposes the forms require to evoke feelings of dignity, stateliness, sublimity, or awe. I cannot refer to more perfect examples than the Parthenon and the inside of the Pantheon. Plans embody not only the general conception of the building and its supports, but should roughly inform a skilled person of the whole scheme of the completed building. We judge of the constructional skill of the architect by the smallness of the ratio of supports to the total enclosed area.

Every one of the three branches of architecture is not only sufficiently difficult, but may be considered transcendental. When we look through many plans we see that some are not only more convenient and more striking than others, but sometimes it seems as if the great planner were first and the rest nowhere. As buildings are meant to stand, it has always struck me as rather a paltry trick to arrest attention, to make a building look unsafe, or to put in a piece of construction which forces us to ask how the architect has managed to make it stand. We want everything to look stable, so that our whole attention may be given to the æsthetic effect; but at the same time skill in construction will enable us to give great variety in the different parts of the building, some parts being slight or slender as compared with the important members of support, which must necessarily be bulky. No building should be put up that has not some evidence of the intention to make it comely, unless it be those buildings that are intended to convey horror or antipathy, of which I spoke before. Every building wants character, and that character should show its use; and when buildings are for the purposes of dignity, reverence, or awe, it is most important that their proportions should excite these feelings, and that any sculpture or painting that is put on them should heighten their effect in the same direction. Although it may seem a paradox to say so, the special convenience that should attach to every building is not so important in the highest sort of monuments, as for the monument to excite a feeling of sublimity, and for this reason that high thought clothed with beauty is much more lasting than ordinary wants. If we could call to life the High Priest of the Parthenon he might tell us that Iktinus and Kalikrates made the temple very inconvenient for the service, but for more than fifteen hundred years that service has been abolished, and we are still enamoured of the sublimity of the temple.

The principal things that want teaching when construction and the art of planning have been mastered are the proportions that have raised the various emotions in existing buildings, the art of moulding and the exercise of the inventive faculties, for it is doubtful if invention is denied to any average human being, although some have it in such profusion that it is easy for them to invent. You probably recollect Plato's saying that those entrusted with public duties should find them easy. I have so often said before, that construction should be the best that is known and practised, and that any construction that is used merely because it is old is mere pedantry.

In every new building we arrange, difficulties arise in giving to the necessary parts that æsthetic expression which we wish them to have. It is comparatively easy to mask the construction so that we may use the æsthetic solutions of deceased architecture, and so long as we pursue this course architecture can never advance. What should be done is to

encourage the student to solve the difficulty in his own way, and that is why ironwork is so serviceable, because in that the student has nothing to copy from, and he must use his inventive powers. Very long columns and stanchions, for instance, have junctions that must be kept together by ugly lugs and bolts or some other cumbrous addition, and these have to be made graceful or beautified. There are difficulties about moulding in iron, and in trying to solve these difficult problems the student should be recommended to aim at simplicity and elegance. If after many trials he cannot do anything towards a solution of these problems, he should abandon architecture.

As regards the practice of some of the younger members, there is too much straining after effect; too much recourse to easy means of arresting attention, such as by rustics; too much partiality for curious and incongruous forms; the sewer-arch or water-opening is too much adopted for entrance doorways and attic windows—anything for a novelty! corners of square openings are rounded off, and projecting members are slightly curved or bellied out. Now there is, in my opinion, nothing like straight lines for dignity, and the rounded corners and bellied door and window heads mostly produce meanness. Another device is to make columns like those barrels that are used to fill in the odd spaces in ships, where the middle diameter is nearly double that at the base and necking, a gross and vulgar caricature of the entasis of the Greek column. This device truly arrests attention, but only to make the judicious observer note the absence of any feeling but for vulgarity. Architecture is a very difficult fine art, and these attempts to attract attention easily merely show want of proper training and laudable ambition. Horace's maxim is as true now as it was then, that "you should study Greek examples by day and by night." The simplicity, grace, and restraint of Greek work cannot be too much studied, and that profusion of ornament that is now so common is not only opposed to Greek practice, but to good taste, for, as it has been truly observed, nothing great is obtained without simplicity.

There is one feature we want badly, and that is a well-designed large window: for there is great demand for these in the new public buildings, and we have nothing but the huge Roman semicircular window of the Baths, and the west-end perpendicular windows, which have little claim to beauty.

There is a great want of study of lighting; half the effect of large complex interiors is got by concentrated light against "a mighty contiguity of shade," while most of our buildings are spotted all over with windows. One of the architectural devices the student should study is to get harmonious grouping of immense windows with those of ordinary and small size, and another is how to treat the problem of the seventeen-story building; for though we have not yet adopted this American device, the increasing scarcity of ground and price of land in large cities tend to produce it.

The only use of these Addresses is to correct mistakes in teaching, to point out, if one can, where the defects in our practice lie, and to stimulate each other to greater exertion, and if possible to find out the way to the advance of our art. The chief things that act as incentives to mankind are the hope of wealth, the hope of honours, and the hope of immortality; and I certainly think that we might well increase one incentive by insisting on being paid for our work, for we are not paid now. I think the powers that be might well make another incentive more common by bestowing honours on the profession, which is now hardly recognised, although it does so much to raise the reputation of the nation by designing monuments which persons from all parts come to see. I can only hope that the prospects of immortality may induce those with congenial genius and the highest ambition to devote themselves to architecture, and to spare no thought and no labour in perfecting their work, so that it may vie with the best Greek work in grace, and with the Mediæval in impressiveness.

We all wish that a great architectural genius may arise, for the sake of our art and of our country; it would be good for everyone but the genius, for his highest traits are mostly brought out by misery. As Shelley says, "We learn in suffering what we teach in song."

I think, or at least hope, that with all the present teaching, striving, and devotion, we shall find the true path of progress, and that in the near future architecture may realise the transformation of the dragon-fly:—

"To-day I saw the dragon-fly
Come from the wells where he did lie.
An inner impulse rent the veil
Of his old husk: from head to tail
Came out clear plates of sapphire mail.
He dried his wings: like gauze they grew:
Thro' crofts and pastures wet with dew,
A living flash of light he flew."

VOTE OF THANKS TO THE PRESIDENT.

COLONEL LENOX PRENDERGAST [H.A.] asked to be permitted to move a vote of thanks to the President for his most suggestive and interesting Address. He had no claim to such a duty, except that by the kindness and consideration of the Institute there was a class of members belonging to it more or less connected with the outside public, as well as with gentlemen within; and it was upon that ground he believed that it had been usual on these occasions for an Honorary Associate to move the vote of thanks to the President for his Address. His first duty was to congratulate the President upon the honours which had been showered upon him within the last year. He had not only gained the blue ribbon of the Royal Academy, but what was perhaps a more striking indication, he had been awarded the Gold Medal, and had been again elected to the Presidential Chair of the Royal Institute. Like many a great position, it was not without its drawback. At the moment of his success the President had had a Fashoda drawn across his path. He too had had to meet a Marchand, in the shape of Mr. Norman Shaw, who had come to tell English architects that they had failed to gain the Californian competition. He had often thought that on these occasions it would be very desirable if they could carry out their old national principle of taking sides in everything, and have a debate on the Address—just as in their school days they had taken sides on the cricket or football ground. He should like to hear a debate on the President's Address! There was no doubt that the suggestiveness of what they had heard that evening would give ample field for the purpose. If under such circumstances they were to enter on a debate, he himself would be found on the side of the French. He confessed he had the profoundest admiration for the system prevailing in Paris of educating

the profession to which they belonged. People were always talking about originality. But what was originality worth unless they knew the science and the grammar of their calling? The greatest mischief was done by those who were telling their young men (who, of course, like all other young men, would like to shirk the difficulties of life) that they could at once start a style of their own and ignore the work of the centuries that had gone before. The public wanted educating on the subject of architecture, and that could not be done if architects were not educated themselves. To suppose that they could invent out of their own heads a new style was the strangest thing that could be imagined. Architecture *nascitur non fit*. He was convinced that anyone who told the young men now rising up that they were fit to start and lead the world to principles different from what had been done before was their greatest enemy. As he had spoken about France he would give them an instance. The French, too, had among them a clique which had started this hare of originality. A recent number of a well-known French periodical, *L'Illustration*—a very good publication in many ways—devoted three or four pages to the subject, and gave six illustrations of the coming style. Thus the most refined, the most artistic of European peoples had got this canker started amongst them. He would ask members to look at the results, to look at those pictures. Anything more ludicrous, anything more detestable it was impossible to conceive. He had jotted down three or four lines of the letterpress, thinking they might amuse members. The writer charged full tilt at the architects, said they were "tied and bound in their worn-out doctrines and terribly refractory," whilst the new school are "the valiant pioneers of the ideal, who push forth manfully in

the *mêlée* and produce works, original works, which prove more eloquently than words that which can be in the future and is the modern style." He hoped the Secretary would purchase a copy of *L'Illustration* of the 15th October, so that they might all have some idea to what depth of degradation a clique was trying to lead that highly refined people. The President had referred to the use of iron in construction. That was indeed a field for them to consider. In St. James's Square there is a huge building that has been rising for some eighteen months or two years. It was an object lesson for anybody to follow the construction of that building. When he saw the iron construction—and some of it was very nice—he thought that perhaps they had got something fresh, and that it was not so bad, but they proceeded to hang upon it a mere clothing of a different description. It was just fiction founded upon fact.

PROFESSOR T. ROGER SMITH [F.] said he rose with very great pleasure to second the vote of thanks. It had not been unusual for some member of the Institute who was not a member of Council to have the honour of doing it, and it gave him great pleasure to acknowledge, in the name of the Meeting, how very much that was suggestive and instructive the President had compressed into the short space of his Address. The phrase which more than once occurred in it, and which he had heard from the President's lips at the Royal Academy also—"The Advancement of Architecture"—was the text of that Address. His desire was to put before them the ways in which architecture might be advanced, and some of the considerations which those who endeavoured to advance it ought to keep before them. He could not help, however, after some of the hard measure that had been dealt out to novelty both by the President and by Colonel Prendergast, saying one word in favour of novelty. There could be no question that novelty was a sort of advancement—that is, if the new thing be also good, and especially if the new thing be better than what went before it. He did not believe at the present day in the possibility of a new style being invented or adopted, except at the suggestion of the new materials and the new wants which were rising; and the modes of building might be modified ultimately to a much greater extent than could be foreseen at present. But they were familiarised with the forms, their minds were filled with the knowledge, their eyes were filled with the sight, their memories were filled with the recollection of the buildings that had been erected and become prominent during all eras of that civilisation which had covered the West of Europe with buildings of different descriptions, and it was impossible for all this to be forgotten; it was impossible for

architects to build without remembering it; and it was impossible for the public to admire buildings without thinking of the forms which had been wrought out with the utmost care and pains at different periods. He believed that, at any rate for some time to come, originality must mean, not new features, but new modifications of existing features, and certainly new combinations. About the new proportions which the Address suggested he himself felt a little misgiving, but the new combinations were possible, and that almost in endless variety. The words used by the President at the opening of his Address when he spoke of the transformation which had taken place in London, and the reference to the interesting buildings to be found in various parts of the country, where, as the President observed, architects were perhaps freer from the fear of the critic, showed that some such change was taking place; whilst the buildings illustrated week by week in the professional papers showed that a large amount of thought was being expended upon buildings, and considerable progress was being made. If they compared one of those journals of to-day with what it was twenty or twenty-five years ago, they would see a definite advance—a quiet advance, but an advance which they must recognise; and he felt full of hope that the future, for those who lived to see it, would show that that advance was going on. If the Institute examinations assisted in inducing men thoroughly and substantially to train themselves, that advance would be accelerated and would be a healthy one.

MR. WILLIAM WOODWARD [L.] said he did not rise to commence the debate referred to by Colonel Prendergast, but merely to direct attention to what he conceived to be an important omission from the Address, and one which he was quite sure the President himself would desire to be filled. He referred to the action of the Institute in the most important architectural matter which had occurred in this generation—namely, the new Public Offices in Whitehall. The Institute was to be congratulated upon its selection; and the Government was to be congratulated upon adopting that selection; and he was sure every member of the Institute would congratulate the two gentlemen, Mr. John Brydon and Mr. William Young, who had been selected by the Government to carry out those important buildings. He was quite sure that Mr. Brydon and Mr. Young would do honour to that selection, and that they would embellish Whitehall with architecture—free from the originality referred to by Colonel Prendergast, but with a touch of that individuality which distinguished already the works of those gentlemen, and which would hand down to posterity some of the most brilliant examples of architecture which this generation had produced.



9, CONDUIT STREET, LONDON, W., 12th November 1898.

CHRONICLE.

The late Charles Garnier.

The Opening Meeting of the Session attracted a very satisfactory gathering of members and their friends, several ladies being among the visitors. The formal part of the business over, the President took the first opportunity of alluding to the decease of the gifted French architect, M. Charles Garnier, one of the most brilliant of the distinguished roll of Foreign Corresponding Members of the Institute. "M. Garnier," the President reminded his hearers, "many years ago was chosen by the Institute for the high distinction of the Gold Medal for Architecture conferred by her Majesty the Queen—and with great justice," continued the President; "for certainly he has given a new expression to French architecture. French architecture had peculiarities of its own, but M. Charles Garnier has added some new leaves to its laurels, and we have profound sorrow for the great misfortune of losing one who was the greatest living architect—not at a very early age, but still at a time of life when he might have done more work to delight the civilised world. When we think that Jacopo Sansovino, the architect of St. Mark's Library at Venice, lived to the age of 93, and had not at that advanced age taken to spectacles, we may consider that M. Charles Garnier was cut off many years before his time. But he was a man of nervous constitution, and his heavy labours told upon him, especially those of the Paris Opera House; his health could not endure the arduous work and expenditure of energy concomitant with the execution of such a great work." The President concluded by moving a vote of condolence with French architects and the Institute of France for the great loss they and architecture had sustained.

Allied Society Presidents elected Fellows.

Pursuant to the provisions of By-law 9, whereby the Council are empowered to elect to the Fellowship without ballot the President of any Allied Society who is eligible and applies for admission,

the Council, at their meeting of Monday the 7th inst., elected the following gentlemen as Fellows of the Royal Institute, viz.:

THOMAS MARTIN CAPPON, President of the Dundee Institute of Architecture, Science, and Art; of 30 Reform Street, Dundee.

WILLIAM EDWARD WILLINK, M.A. Cantab. [A.], President of the Liverpool Architectural Society; of Dingle Bank, Liverpool, and 14 Castle Street, Liverpool.

The Statutory Examination.

At the General Meeting of Monday the 7th inst., the Hon. Secretary announced that three gentlemen presented themselves at the Examination held by the Institute on the 27th and 28th ult., in accordance with the requirements of section 140 of the London Building Act (57 & 58 Viet. c. cexiii.), with the result that one candidate passed, viz., Mr. George Henry Blagrove, of 7 Mornington Crescent, Regent's Park, N.W. The Council have accordingly granted this gentleman a Certificate of Competency to act as District Surveyor in London.

A Compliment from Canada.

The following letter, addressed to the Secretary R.I.B.A., has been received from Montreal:—

New York Life Building, Montreal:
October 28, 1898.

SIR,—The Province of Quebec Association of Architects, wishing to express to your distinguished Institute a mark of consideration, beg to offer the card of invitation and the programme of its Annual Meeting, regretting that the long distance separating us shall deprive our Association of the honour of counting you as one of its guests.

Yours respectfully,
JAS. VENNE, Secretary.

Sir W. B. Richmond on English Art.

Sir W. B. Richmond, R.A. [H.A.], in the course of his address last Monday at the Birmingham and Midland Institute, expressed a hopeful opinion as to the future of art in England. A very healthy desire, he said, had grown up for the union of the arts, and with that a wholesome dislike of specialism. The arts were also widening their scope and play, and were therefore acquiring a firmer as well as a wider sympathy. The painting of pictures was slowly coming to be regarded, as no doubt it was, as a very important part of the arts, but not the only one. The marked strides that sculpture had made in recent years were very remarkable. He questioned whether England ever had cause to be so proud of her sculptors as at present. Among them they could name many men who were doing first-rate work. Most of these were in the prime of life, and there was

evidence that there was a younger race springing up whose energy and talent would ere long come to the front.

Touching the future of architecture, Sir W. B. Richmond holds the view that the younger school of architects is composed of men who are original upon very safe lines. Their work is severe and restrained. With regard to the crafts, he confessed to having a very tender place in his heart towards them. The advance was so striking that one could not help drawing a conclusion therefrom—namely, that English people were really going to be tasteful as well as commercial. If that did happen, England would be even greater than she was now. It was a remarkable sign of the times when technical schools were being established over the country, and a still more interesting fact was that the work done was already upon a high level of excellence. He congratulated Birmingham and the Headmaster of the Birmingham School of Art that he and they moved with the times. The Birmingham School of Art was the best in England, because the instruction was not only very thorough, but very broad in its outlook. Especially did it interest and delight him to know that the lesser arts found great sympathy in their educational programme.

The decorative arts would be the arts of the future. Designing for metals, mosaics, and pottery was only valuable when the designer knew the capabilities of his material. South Kensington had been a great lesson. The system there had failed to succeed, as it might have succeeded if the original plan upon which the department was framed had been practical, not theoretical. While the South Kensington authorities had been asleep, some cities such as Birmingham, and even towns, had become alive to the necessity of training for the crafts by practice in them.

The lecturer looked forward to a time when England should take a place not even second to Italy at her best period. That would come when the unity of the arts had been established, when architecture, sculpture, and painting were all working together hand in hand with the crafts. It would come when the smallest jewel would be set so exquisitely and with such exuberance of fancy and finish that it would be prized, not for its intrinsic worth or marketable value, but because it was lovely. When the taste for the beautiful had been fully established in small things, and when people declined to buy ill-made and badly designed articles of finery, then the great epoch to which he had alluded would commence. It would be a time of a great liberal union, a great federation of all the states of art. They were going the way to attain it, but there was a great deal to be done yet. Art as a commercial business would have to cease. All labour should be well paid, but the labour which was always a pleasure

was often too highly paid. The great movement to which he had alluded was due in a great measure to the labours of Burne-Jones and William Morris. What was going on at the present time which was truly vital, moving, and influential was in a large measure due to those great artists. There was, indeed, hope for the future, and even the belief that Englishmen would ere long determine to have all things beautiful as well as useful. Perhaps two centuries hence history might say, "Yes, what we know now is due to a few artists of the nineteenth century. There were some great painters, but there were two great designers who opened out their inventions for the public good, and gave their best, not only to picture galleries, but to our churches, to our homes, and to the people—William Morris and Edward Burne-Jones."

Architectural Copyright.

With reference to the Resolution passed at the Artistic Copyright Congress at Turin, quoted in the last number of the JOURNAL (Vol. V. p. 502), Monsieur Ch. Lucas [*Hon. Corr. M.*] writes as follows:—

J'ai vu avec intérêt, dans ce numéro, la reproduction du vœu sur la *Propriété artistique des œuvres d'Architecture*, tel que ce vœu a été adopté par le Congrès international de la Propriété littéraire et artistique tenu à Turin en septembre dernier; mais quelques lignes d'explication me semblent devoir, d'accord avec M. G. Harmand, avocat, qui a soutenu ce vœu au Congrès de Turin, être ajoutées sur l'origine même de ce vœu.

En effet, ce vœu a été rédigé par M. Charles Lucas, architecte [*Hon. Corr. M.*] et par M. Georges Harmand, avocat, le premier, secrétaire, le second, membre du Conseil judiciaire, de la Caisse de Défense mutuelle des Architectes, et le vœu a été adressé, au nom de cette Association, par M. Alfred Normand, membre de l'Institut de France [*Hon. Corr. M.*], président de la Société Centrale et de la Caisse de Défense mutuelle des Architectes.

Une légère modification de forme au vœu primitif a même été proposée en séance par M. Parodi, architecte italien, et adoptée, après observation de M. Poupinel, architecte à Paris, délégué par le Ministère de l'Instruction publique et par la Société Centrale.

Church Dedications.

Mr. J. D. Crace [*H.A.*] sends the following note in reference to *Studies in Church Dedications; or, England's Patron Saints*, by Frances Arnold-Forster, which Messrs. Skeffington propose to issue if a sufficient number of subscribers' names are received:—

This work, of which the material is now ready for the printer, is one for which many an architect and many a glass painter must often have felt the need. The author (who is the granddaughter of the great Dr. Arnold of Rugby) has made its preparation a labour of love for years, and the name of Arnold is in itself a guarantee of careful and sound work.

As the book will extend to three 8vo. volumes,

including notices of all the saints to whom churches have been dedicated throughout England, it is not surprising that the author is unable to face the whole liability of publication without some promise of subscribers; and Messrs. Skeffington, the publishers, of Piccadilly, have accordingly been authorised to issue a prospectus of the book, inviting subscriptions, to be paid when the book is ready for delivery. This prospectus is before me, and will no doubt be in the hands of the Librarian. I should suppose that many members of the Institute will welcome the publication, and be not unwilling to further it.

The late Henry Hewitt Bridgman [F.].

Mr. Henry Hewitt Bridgman, whose death took place on September 15 last, at 1 Camden Square, N.W., at the age of fifty-three, was elected Associate in 1871, and Fellow in 1883. He qualified as District Surveyor in 1878, but was never appointed.

A native of Torquay, he served his articles in the office of Mr. Edward Appleton, a Vice-President of the Institute. He came to London in 1867, and was sometime assistant to Mr. John Gibson. On the death of his brother Albert in 1875, Mr. Bridgman succeeded to the practice at 42 Poultry, London, where he soon found scope for his extreme energy in municipal life, being elected in 1884 one of the representatives of the Ward of Cheap in the Common Council. His business capacity procured rapid advancement to the Chairmanship of the Gas and Water and Streets Committees. He was next called to preside over the Law and City Courts Committee and at the opening of the new Court by Lord Halsbury, and was finally chosen Chairman of the Commission of Sewers, and Deputy of the Ward. Principally at his instance electric lighting was introduced, subway crossings at the Mansion House projected, Moorgate Street Station rebuilt, and Cheapside improvement decided upon. He received many testimonies of the esteem of his colleagues and fellow-citizens in presentations of plate, &c., and his portrait was subscribed for, and presented shortly before retirement through ill-health two years ago. He was a member of the Wheelwrights', Paviers', and Glovers' Companies. He obtained the 100l. prize for the Westgarth Essay on the realignment of main streets, was joint author of the scheme for a Central Fish Market over the foreshore between Waterloo and Charing Cross Bridges. Among executed works may be mentioned St. Pancras Vestry Hall and Workhouse Block, Steyning Union Infirmary, Bushey Board School, warehouses and offices in St. Bride Street, Cornhill, Queen Street, Chancery Lane, &c. A Liberal in politics, he contested Taunton in 1892, unsuccessfully.

The funeral took place at Highgate Cemetery

on September 19, many of his old colleagues on the Council and friends being present, recognising that the administrative body of the City of London, during a very critical period of its existence, had in Mr. Bridgman a most able and energetic Councillor.—EDWD. WM. HUDSON.

REVIEWS.

VENTILATION AND HEATING.

Report on the Ventilation and Warming in certain of the Metropolitan Poor Law Schools. By William Napier Shaw, of Emmanuel College, Cambridge, M.A., F.R.S., Lecturer on Experimental Physics in the University of Cambridge.

This Report to the Local Government Board, published as a "Blue Book" and presented to Parliament on the 5th August 1898, contains much information on the subjects of ventilation and heating useful to architects. The introductory remarks concisely define what is generally considered requisite to secure ventilation; some points of importance are, however, conspicuous by their absence.

1. The necessity for a more thorough change of air in apartments when *not* occupied.
2. The result of contamination of surfaces of and in an apartment long occupied and inefficiently ventilated.
3. The effect of various qualities of building materials on ventilation and warming.
4. The apparent want of appreciation of the fact that the natural force which can principally be relied on for securing change of air within a building is *gravitation*.
5. The relative merits of upward and downward ventilation.
6. The relative merits of *propelling* and *suctional* forces, particularly when mechanical means are employed to secure ventilation.

With regard to (1), it may have been thought to be so well recognised as to require no comment, but as there is frequent reference to the want of knowledge and attention, on the part of the school officials, to the requirements of and the provisions made for ventilation, it would have been well to emphasise the necessity for opening windows and doors to the utmost whenever rooms are unoccupied.

As to (2), mere change of air is not always sufficient to ensure purity of the atmosphere in an apartment much occupied. All surfaces should be periodically cleansed, or stuffiness will result.

(3) Hard, impervious materials do not readily absorb heat; they are naturally cold, and consequently prone to encourage condensation, which,

in occupied rooms, consists, in addition to moisture, of organic matter liable to putrefaction.

(4) With the exception of a suctional force, produced by wind passing rapidly across an opening, ventilation by natural means is produced by *propulsion*, either brought about directly by the force of wind, or, when heat is employed, by rarefied air or gases being forced upward by the gravitation of colder, and consequently heavier, air, and not by the lighter air ascending and sucking the colder air inwards. To many this may appear a subtle distinction, but the absolute realisation thereof will greatly assist in the appreciation of many details necessary to be understood by those who desire to secure efficient ventilation. It should also prove to those who have hitherto opposed ventilation by propulsion that such is in reality nature's principal method.

(5) Cross-ventilation by windows opened at the top is frequently referred to in the Report, and the cooling tendency thereof and draughtiness noted. Yet there is little remark upon the effect of such a crude method of procuring fresh air for the occupants of an apartment. It would have been well to have pointed out that under such conditions the volume of air estimated to be required per head would principally sweep across the ceiling, in at one window, out at another, while air in the lower and occupied portion of the room would remain comparatively stagnant.

In an ordinary room, with a fireplace and flues, change of air throughout is best secured by an inlet or inlets on the same side as the fireplace, at about two-thirds the height of the room, formed so as to direct the incoming air slightly upwards; it will then spread itself out, become diffused and tempered, will gradually descend and be forced out up the fireplace flue. This is downward ventilation, and by its means every occupant of the room may, with the least possible discomfort, receive a suitable supply of fresh air at a minimum loss of temperature in cold weather. One would therefore have expected to find advocated in the Report an arrangement of suitable inlets in the upper portions of rooms and of outlets near the floor levels.

(6) Although it is refreshing to find *ventilation by mechanical means* advocated officially, it is evident that the necessary precautions essential to success therewith have not been fully grasped. It is true that in Recommendation 3 (page 43) mention is made of "apparatus for supplying warmed air mechanically," but there is nothing elsewhere to serve as a guide whether propulsion or extraction is advocated, nor is there any reference to the necessity for cleansing the air supply or regulating its hygrostatic condition. One might reasonably have expected the explanation that, by employing propulsion, the source

of supply can be selected, the air can be cleansed, tempered, and brought to a proper state of humidity, and forced in directions most suited to those for whom it is wanted; and that, should extraction be employed, there is no telling whence the air may be drawn; it cannot be either cleansed, tempered, or humidified, and the power expended may simply be wasted in drawing air from inlet to outlet without supplying adequate change where wanted.

The most unfortunate recommendation is contained at the end of paragraph 3, above referred to, viz., that "the existing openings for ventilation be retained as outlets for the air." To follow such a course would assuredly end in failure and in condemnation of ventilation by mechanical means, for with such it is imperatively necessary that the position of outlets shall be as carefully selected and apportioned as the inlets, and so constructed that movement of the outer atmosphere, which is constantly varying, may exercise no influence upon the outflow; because, unless these precautions are taken, the supply and temperature will fluctuate, and unpleasant draughts may result.

The last paragraph but one in the introductory remarks (page 6) seems to imply that complete control of ventilation can only be secured by motive power applied both at the inlets and at the outlets. This in practice has proved to be a fallacy. A little consideration ought to convince any one that with such there must be either actual loss of power or air drawn from unknown sources.

Although I have thought it advisable to direct attention to what I consider the shortcomings of the Report, I feel indebted to Mr. Shaw for the very thorough examination of the buildings he visited, for the matters to which he has drawn attention, and for the many valuable recommendations he has made.

He has done well to emphasise the utter want of knowledge, on the part of some officials, of the means provided for ventilation, and the lack of attention to their suitable maintenance and cleanliness; also to the erroneous but widespread belief that, when suitable means are provided, they are intended to work automatically, and require no personal attention, whatever change there may be in the condition of the outer atmosphere. The suggestion in a footnote (page 31) that there should be "ventilation drill," should certainly be adopted and acted upon, not only in the Metropolitan Poor Law Schools, but in every school and public institution throughout the kingdom. It would be the best means of directing the attention of officials, teachers, and children to the importance of efficient ventilation in regard to health; it would develop observation; and haply the next generation may take as much interest in the subject and be as prepared

to incur adequate expenditure to secure efficient ventilation as is now considered necessary to obtain a pure and abundant water supply.

The Report is well illustrated by plans and views of buildings visited and by temperature charts.

WILLIAM HENMAN.

Birmingham.

LIGHT AND AIR.

The Law of Light and Air. By A. A. Hudson and Arnold Inman, Barristers-at-Law. Small 8s. Lond. 1898. [Frank P. Wilson, St. Bride Street, E.C.]

This is a good book. The law relating to light and air is stated succinctly, and, on the whole, fully, clearly, and accurately. At the same time it seems doubtful whether it will supply any real want. It seems too large for the architect, and too small for the lawyer. That very useful book for the architect who merely wants to see when questions as to light and air are likely to arise, and who is too wise to try to decide them for himself when they do arise—Roscoe's *Digest of the Law of Light*—is likely to remain the book used by most architects. While as long as such works as *Gale and Goddard on Easements* are to hand, lawyers are not likely to consult this little book.

The system adopted by the authors in their exposition of the law is much the same as that followed by Mr. Hudson in his large treatise on *Building Contracts*. They first state the principle of law somewhat in the form of a rule, and then illustrate it by decided cases as examples. Some of the comments on the principles involved are not very profound. For example, at p. 7 it is said: "It is inaccurate to say that a man has a right to receive light or air through a certain window or aperture; it is manifest that at night, or in a London fog, he has nothing of the kind; what he has, or may have, is a right to prevent his neighbour or any other person from obstructing such light or air as would naturally reach and pass through the window or aperture in question." It did not need two lawyers come from the Temple to tell us that.

By far the weakest part of the book is that which deals with the remedies for interference with right of lights and air. There is no sufficient statement as to the difference between an ordinary injunction to restrain a threatened obstruction of light and a mandatory injunction directing the removal of an obstruction existing at the time the action was brought. The former is granted as a matter of course, on proof that the right to light will be infringed. The latter is rarely granted, save where there has been some fraud or concealment on the part of the person responsible for the erection of the obstruction (*Martin v. Price* (1894), 1 Ch. 276). This should be of much importance where the obstructing building was erected in the

twentieth year of the enjoyment of the right to light. Till the full period of prescription (twenty years) is past, the right to the enjoyment is not complete (*Lord Battersea v. Commissioners of Sewers for the City of London* (1895) 2 Ch. 708). At the same time it is impossible to interrupt the enjoyment for a year (the interruption required by the Prescription Act) before the full period is completed. Obstructing buildings then erected in the twentieth year are lawfully erected, but they do not prevent the legal right to the light accruing at the end of the twentieth year. They being lawfully erected, however, it is almost certain the Court would not grant a mandatory injunction at the end of the twentieth year directing the owner to pull them down. It probably would give damages instead.

There is one rather serious objection to be made to this book if all the copies issued are like that one now before me. Though well printed and neatly bound, the stitching is done so badly that already a considerable number of pages are loose.

J. ANDREW STRAHAN,
Barrister-at-Law [H.A.].

THE CEYLON SURVEYS.

Archæological Survey of Ceylon. Reports x, xii, xiii, etc. By H. C. P. Bell, C.C.S., Archæological Commissioner, Colombo, 1893-1896.

Report xix. has been already noticed in these pages,* and also some of Mr. Bell's earlier *Reports*.† These *Reports* are amply illustrated with maps, plans, sections, and reproductions from photographs; the reproductions, although of a very rude and primitive kind, yet convey a distinct enough idea of the architectural forms. Mr. Bell still continues his explorations at Anurādhapura. As this place may not be very familiar to most readers, it will perhaps be as well to repeat that it was the ancient capital of Ceylon, and that it enjoyed that dignity for about a thousand years—that is, from about 500 B.C. till about 500 A.D. During that period the "Island of Gems" was in a flourishing state, and the resources being plentiful, large numbers of architectural structures were produced. These included palaces, monasteries, and dagabas, the last mentioned monuments, perhaps, with the exception of Boro Boddor in Java, and one at Mengün in Burmah, being the largest of the kind in the East. The remains of the old city, which covered many miles of ground, now lie under an accumulation of soil and forest growth, the increase of centuries, during which the place has been deserted. All this has to be removed before anything becomes visible to the explorer, and still more has to be dug out in order to realise what has been found. Sometimes,

* JOURNAL, 16th February 1893.

† JOURNAL, 27th August 1891; 29th September 1892; and 15th February 1894.

during the monsoon, the ground is a swamp; and when there is no rain, the soil becomes hard as iron, when digging is all but impossible. In the midst of these difficulties Mr. Bell has been "pegging away," and doing good work, but although he has cleared out a good many sites, it cannot be said that he has come upon much that is new. The type of each kind of structure had become so firmly fixed, that any fresh find seems to be only a repetition of the one that had been explored before.

This will explain how it chanced there is very little that is new to record. Ancient roads have been traced, and these help so far in working out the original plan of Anurādhapura; more copper plaques with inscriptions have also been come upon, and these Mr. Bell considers will be not only valuable for the palæography of Ceylon, but in addition they will give a sure period from which the dates backwards and forwards of architectural remains can now be more safely worked out.

In his *Indian and Eastern Architecture*, p. 219, Fergusson gives the plan of a temple at Aiwulli, and at p. 221, the plan of a temple at Pittadkul; these were first discovered and drawn by Dr. Burgess. Fergusson naturally attached considerable importance to them from their resemblance to the Chaitya halls of the Buddhists, from which he thought they were derived. If the plan of Vihāre, No. 2, at Pankuliya, in Mr. Bell's Report, xiii., pl. xvi., is looked at, and also Vihāre, No. 2, at the Vijayavirama monastery, in Report x., pl. xii., the resemblance in them to the plans of Dr. Burgess appears to be very close; the Pankuliya example and the Pittadkul temple might be described as almost identical. The walls in both cases are rectangular, and both have the same *pradakshina* or circumambulating path. The Ceylon structure is what the local phraseology calls a *pilimā-ge*, or "image-house"; it contained a seated figure of Buddha, and does not appear to have been developed from a Chaitya hall. Still, the type may have been derived from the South of India, for Aiwulli is supposed to date from the seventh century A.D., and the buildings at Pankuliya are as late as perhaps the ninth or tenth century. Still, if the Buddhists had "image-houses" in Ceylon, it is highly probable that they had similar houses or temples of that character in India, and that possibility raises a slight shade of doubt about Fergusson's theory of origin for the Aiwulli and Pittadkul temples. I do not consider that he was far wrong, but we had better wait for further discoveries in order to be certain of the exact conditions of the development.

Writers on Indian archæology apply the word "Vihāra" exclusively to the places where the Buddhist monks dwelt, to distinguish such structures from Chaitya halls or Stūpas; but in Ceylon

the same word—although slightly different in spelling—Vihāre, is applied to a *pilimā-ge* or image-house, which is a temple and not a residence. Wishing to know exactly what this word means, I wrote to Professor Rhys Davids, whose high proficiency as a Sanskrit authority is so well known, and I here give the answer he has kindly favoured me with, as it may be of value to others. "In the old texts—the Pitaka texts—vihāra always means a *cell*. It comes from viharati, 'to dwell, to remain,' and means a cell, or hut, because the Bhikshu dwelt, remained there. In Ceylon, however, and I believe also in Burmah, the word was extended to the whole of a religious site, so that dagāba, image-house, and cells, all together, form a viharā. It is not known when this use of the word began; probably very late, tenth or twelfth century A.D."

From this it will be evident that this Sanskrit word when used in Singhalese archæology must be understood in a different sense from what it is in India. Already we have a case of the same kind—what is known in India as a "Stūpa" is always called a dagāba in Ceylon. *Parivāra*, according to Mr. Bell's glossary, is the Ceylon word for a monk's residence; or *Pansala*, from *pan*, a "leaf," and *sala*, a "hall," or "house;" this last word is well enough known in India, for it was used to express the leafy bower to which a Brahman retired when he reached a certain age, so that he might, in his last years, prepare himself in this world for absorption into the next.

Mr. Bell has some remarks* on the succession of animals which occur on the moonstones—moonstones, it may be explained, are large semicircular slabs at the foot of steps leading to dagābas or image-houses; the animals are the elephant, lion, horse, and bull; sometimes the *hansa* or goose figures among them. This succession of animals appears also occasionally in Brahmanical architecture. In reviewing Mr. Smith's work on Anurādhapura† I pointed out that they were found in tiers or large mouldings round the base of the temple at Hullabid; also, that they were known in Buddhist architecture, from Fa Hian's description of the great rock-cut monastery in the Dekhan. Mr. Bell is no doubt right in his identification of these animals with those of the sacred Anotatta-vila lake. Lake Manasarovar, which is equally sacred with the Brahmins, and is probably the same as Anotatta-vila, has the four animals, and they are the sources, or mouths, from which flow four rivers—the Indus, Sutlej, Brahmaputra, and the Ghogra. It may also be accepted, as Mr. Bell suggests, that these four animals represented the four quarters, or the cardinal points. The Brahmanic mythology has four gods of the quarters; in Egypt, the Four Genii of Amenta

* Report xii. p. 16.

† JOURNAL, 1895, Vol. II. p. 456.

originated from the four quarters; and the four cherubic forms were, in the Christian church, given to the four evangelists; the reason for the four gospels being, according to Irenæus, that there were "four zones" in the world, and "four principal winds," which means the cardinal points. These four creatures, which bear some resemblance in the instances just given, may have had their first origin in the four quarters of the Zodiac, which is perhaps the most probable guess, but we may have to wait for further knowledge from cuneiform, or even the earlier Akkadian inscriptions, before anything like certainty can be assumed on the subject.

Report xiii., in addition to some details about Anurādhapura, contains an account of "circuit work," or a tour in the North-Central Province, which gives us glimpses of the old *bunds* or dams for storing water; their number and great size explains the ample fertility which Ceylon at one time enjoyed when it was a prosperous country. As we may say it was the Nile, from the fertility it produced, that built the pyramids and the vast temples of Egypt, so it was these large artificial lakes that supported a great city like Anarādhapura, and constructed the extensive monasteries and huge dagābas whose very magnitude almost defy Mr. Bell and his limited means to explore them. Amongst these reservoirs the Padaviyavewa had amongst its titles that of *Māha Sāgara*, or "The Great Sea," and its size may be roughly guessed when it is stated that the embankment which retained its waters was about three miles in length. This embankment, and others almost as large, have long ago had breaches in them, and the ground has been left in the condition of an unhealthy swamp, the abode of fevers and wild beasts.

WILLIAM SIMPSON.

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1898-99, held Monday, 7th November 1898, at 8 p.m., Professor Aitchison, R.A., *President*, in the Chair, with 44 Fellows (including 19 members of the Council), 26 Associates (including one member of the Council), 3 Hon. Associates, and numerous visitors, the Minutes of the Meeting held Monday 27th June 1898 [Vol. V. p. 449] were taken as read, and signed as correct.

The Hon. Secretary announced the decease of the following members:—Major Alfred Heales [H.A.], Henry Hewitt Bridgman [F.], and John Gillett Livesay [A.].

The following member, attending for the first time since his election to the class of Fellows, was formally admitted and signed the Register, viz.—William Banks Gwyther (Calcutta).

The Hon. Secretary announced that, by a Resolution of the Council under By-law 20, Messrs. John Horbury Hunt and Frederick Moorhouse, both of Sydney, New South

Wales, and Mr. Ernest Alfred Mayo, of Chicago, had ceased to be members of the Royal Institute.

The Hon. Secretary further announced that Mr. William Nicholson Cumming (Edinburgh) had been reinstated an Associate of the Royal Institute.

The Hon. Secretary announced the results of the Statutory Examination for the office of District Surveyor under the London Building Act held on the 27th and 28th October, and that the Council had granted a Certificate of Competency to the successful candidate [see p. 10].

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election, namely:—As FELLOWS, Robert Lockhart McCowat, Johannesburg; William White Cooper, M.A. Cantab., M.A. University of the Cape of Good Hope, Diocesan Architect to the Diocese of Grahamstown; Henry Thomas Hare [A.], *Ashpitt prizeman* 1886; William Henry Duffield [A.]. As ASSOCIATES, John Cecil Baines (*Probationer* 1894, *Student* 1896, *Qualified* 1898); Christopher William Surrey (*Probationer* 1891, *Student* 1894, *Qualified* 1898); Albert Herbert (*Probationer* 1893, *Student* 1894, *Qualified* 1898, *Cates prizeman* June 1898) (Leicester); Louis Moore (*Probationer* 1893, *Student* 1895, *Qualified* 1898) (Southampton); Percival Cherry Blow (*Probationer* 1890, *Student* 1894, *Qualified* 1898) (St. Albans); James Stockdale Harrison (*Probationer* 1892, *Student* 1895, *Qualified* 1898) (Leicester); Ethel Mary Charles (*Probationer* 1893, *Student* 1895, *Qualified* 1898); Arthur Bentlinger Gough (*Probationer* 1891, *Student* 1895, *Qualified* 1898) (Bristol); Charles Ridley (*Probationer* 1894, *Student* 1896, *Qualified* 1898) (Wellingborough); Victor Evans Bösher (*Probationer* 1892, *Student* 1895, *Qualified* 1898) (St. Leonards-on-Sea); Robert Walter Carden (*Probationer* 1893, *Student* 1896, *Qualified* 1898); Arthur William Vercoe (*Probationer* 1891, *Student* 1892, *Qualified* 1898); Alexander Cowie (*Probationer* 1894, *Student* 1896, *Qualified* 1898); Gerald McMichael (*Probationer* 1892, *Student* 1895, *Qualified* 1898) (Birmingham). As HON. ASSOCIATE, Sir Alexander Binnie.

Mr. W. Hilton Nash [F.] having raised a question respecting the nomination of Miss Charles, Mr. E. A. Gruning, *Vice-President*, replying for the Council, pointed out that the candidate had been admitted by the Council to the various Examinations, and had duly qualified for candidature under the By-law, and that the Council were unanimously of opinion that they had no right to refuse the nomination.

The President, having tendered his thanks to members for the honour they had done him in electing him for a third year to the Presidential Chair, made sympathetic allusion to the death of M. Charles Garnier [*Hon. Corr. M. and Royal Gold Medallist*], and on his motion it was

RESOLVED, that an expression of sympathy and condolence with the architects of France and the Institute of France, in the loss they had sustained by the death of their distinguished colleague, M. Charles Garnier, be entered on the Minutes of the Meeting and communicated to the Institute of France.

The Opening Address of the Session having been delivered by the President, a vote of thanks, moved by Colonel Lenox Prendergast [H.A.] and seconded by Professor T. Roger Smith [F.], was passed to him by acclamation.

Mr. William Woodward [A.] having referred in appreciative terms to the Government's selection of the architects for the new Public Offices, the proceedings closed, and the Meeting separated at 9.30 p.m.

